

European Solar Thermal Energy Standardisation & Certification Working Group (ESTESC)

Subgroup Group Energy Labelling

Discussion paper Lot1 & Lot2: Solar-only system Version: 5/4/2017

Issue:

The current text of FAQ 30 in the Implementing Guidelines is in potential contradiction with the text on the regulations (812/2013) and may lead to double interpretations.

Background:

Currently, FAQ 30 states:

How to define a product made by a solar hot water storage tank specifically designed and connected with a solar collector, an electrical resistance and a bracket, put on the market as one single unit?

If the electrical resistance operates as a backup immersion heater for the purpose of safety only (e.g. avoiding frosting), then the product is a solar only system.

If the electrical resistance is used for satisfying the required comfort levels, this product must be considered as a solar water heater.

On the other hand, the regulations state:

812/2013 / 814/2013

(12) / (14) 'solar-only system' means a device that is equipped with one or more solar collectors and solar hot water storage tanks and possibly pumps in the collector loop and other parts, which is placed on the market as one unit and is not equipped with any heat generator **except possibly one or more back-up immersion heaters**;

(10) / (18) 'back-up immersion heater' means a Joule effect electric resistance heater that is part of a hot water storage tank and **generates heat only when the external heat source is disrupted** (including during maintenance periods) or out of order, or that is **part of a solar hot water storage tank and provides heat when the solar heat source is not sufficient to satisfy required comfort levels**;

Annex I (2) / (12) 'solar water heater' means a water heater equipped with one or more solar collectors, solar hot water storage tanks, **heat generators** and possibly pumps in the collector loop and other parts, a solar water heater is **placed on the market as one unit**;

Annex I (39) / Annex I (36) 'solar hot water storage tank' means a **hot water storage tank** storing heat energy produced by one or more solar collectors;

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(9) / (13) 'hot water storage tank' means a vessel for storing hot water for water and/or space heating purposes, including any additives, which is not equipped with any heat generator except possibly **one or more back-up immersion heaters**;

Points for discussion:

The main point is to avoid double interpretations of the regulations. Based on the text of the regulation, a typical thermosiphon system with an electric backup, should be considered as a solar-only system. On the other hand, the text in the Implementing Guidelines could lead to consider such system as a solar water heater.

It shall be clarified that a 'Joule effect electric resistance heater' integrated in the 'solar hot water storage tank', **EVEN** if used to provide additional heat to 'satisfy required comfort levels', shall be considered a 'back-up immersion heater' and, as such, the system is a 'solar-only system'.

Proposal

The proposal is then to alter the FAQ no. 46 (previously no. 30) in the Implementing Guidelines with the following text:

How to define a product made by a solar hot water storage tank specifically designed and connected with one or more solar collectors, an electrical resistance and other parts, put on the market as one single unit?

If the electrical resistance is part of the solar hot water storage tank and operates as a backup immersion heater (thus, it generates heat only when the solar heat source is not sufficient to satisfy the required comfort levels), then the product is a solar-only system.